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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/890,043	10/02/2001	Peter Frederick Wilde	690100.401US	7687

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Seed Intellectual Property Law Group
701 Fifth Avenue Suite 6300
Seattle, WA 98104-7092

EXAMINER


NGUYEN, TAM M

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 03/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/890,043	Applicant(s) WILDE, PETER FREDERICK	
	Examiner Tam M. Nguyen	Art Unit 1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 October 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 7 and 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Wilde et al. (GB 2276392).

Wilde discloses a process for extracting oil from a substance by contacting the substance with a solvent comprising HFC 134a (1, 1, 1, 2-tetrafluoroethane) in a sealed first vessel which is then heated. A solution of oil and HFC 134a from the first vessel is then passed into an evaporator (a second vessel) wherein the solution is then cooled to separate oil from the solution. (See example A on pages 13-15 and claim 6). This is deemed to anticipate the limitation of claim 1.

Claim 7:

Wilde discloses that the second vessel (evaporator) is cooled to very low temperature and it is desirable to immerse the second vessel in a water bath furnished with an immersion heater and thermostat. The thermostat is set to activate the immersion heater when the water temperature fell to 10° C and to switch off the heater whenever the temperature of water exceeded 12° C. This is deemed to anticipate the limitation of claim 7. (See page 14; lines 21-26)

Claim 8:

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The substance is a seed (see claim 7). This is deemed to anticipate the limitation of claim 8.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wilde et al. (GB 2276392)

The process of Wilde is as discussed above.

Wilde does not specifically disclose that the first vessel is heated to a temperature of from 40 to 60° C. However, Wilde teaches that in order to improve the recovery of solvent, it is necessary to introduce heat to the extractor and its contents (see the last paragraph on page 15). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Wilde by heating the first vessel at the claimed temperature because one of skill in the art would employ any temperature (including the

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claimed temperature) that would enhance the recovery of solvent in the second vessel and it would be expected that the results would be the same or similar when operating the first vessel at either 39° C or 40° C.

Claim 1-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Powell et al. (WO 95/26794) in view of Wilde et al. (GB 2276392).

Powell discloses a process for extracting oil from a substance by contacting the substance with a solvent comprising HFC 134a (1, 1, 1, 2-tetrafluoroethane) in a first vessel and then passing a solution of oil and HFC 134a into an evaporator system (a second vessel) wherein oil is separated from the solution. Powell also discloses that the extraction apparatus (first vessel) has an aerosol valve fitting attached to its mouth and after the required amount of extraction solvent had been charged to the extraction apparatus (first vessel), the extraction apparatus is clamped to a mechanical shaker. Therefore, the examiner's position is that the extraction apparatus is sealed during the shaking step. (See pages 7-10).

Claims 1 and 11:

Powell does not specifically disclose a step of heating the first vessel by a heating means and a step of cooling the second vessel. However, Wilde discloses a process of extracting oil from a substance wherein the first vessel is heated and the second is cooled to release oil from solution (see Wilde: the third and fourth paragraphs in page 14 and the last paragraph in page 15). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Powell to heat the first vessel by a heating means and to cool the second vessel as claimed because heating the first vessel would improve

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the recovery of solvent and cooling the second vessel would enhance the separation of solvent from the extracted oil.

Claims 2-5:

The co-solvent is dimethyl ether (DME). Since the co-solvent of Powell is the same the claimed co-solvent, it is inherent that the co-solvent of Powell is liquid at room temperature. (See examples 1-2)

Claim 6:

Both Powell and Wilde do not disclose that the first vessel is heated to a temperature of from 40 to 60° C. However, Wilde teaches that in order to improve the recovery of solvent, it is necessary to introduce heat to the extractor and its contents (see the last paragraph in page 15). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Powell/Wilde by heating the first vessel at the claimed temperatures because one of skill in the art would heat the first vessel at any temperature (including the claimed temperature) to enhance the recovery of solvent in the second vessel and it would be expected that the results would be the same or similar when heating the first vessel either at 39° C or 40° C.

Claim 7:

Powell does not disclose that the second vessel is cooled to a temperature of from -10° C to 25° C. However, Powell discloses that the distillation (evaporation) is carried out at a relative low temperature and the evaporation of the extraction solvent is aided by immersing the lower half of the evaporation chamber in an ambient temperature (which is about 20-24° C) water bath.

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The examiners position is that the second vessel (evaporator) is cooled to a temperature within the claimed ranges. (See page 7, lines 2-11; page 9, lines 3-6)

Claim 8:

The substance is a seed. (See page 3, line 4)

Claim 9:

The process of Powell including an apparatus system is as discussed above. Powell further discloses that the two vessels are connected by pipe work wherein the solution from the first vessel, which comprises a filtering means, is passed to the second vessel which is associated with a cooling means. Both vessels have an inlet and an outlet wherein the first vessel and second vessel are associated with each other by a valve. (See pages 7-10)

Powell does not specifically disclose that the second vessel has its own closable valves. However, it appears that both inlet and outlet of the second vessel should be closed when the transferring of liquid or substance in or out of the vessel is completed (see pages 7 and 8). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Powell/Wilde by employing at least one closable valve for the second vessel as claimed because a closable valve is a device that has both function for either opening or closing when it is needed.

Claim 10:

Powell does not disclose that the valves are one way valves which are arranged as claimed. However, The flowing of the solvent and the solvent/oil solution within the process of Powell is a one way flow (See pages 7-9). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of

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Powell/Wilde by utilizing one-way valves and arrange them in the modified process as claimed because it would be effective to use one way valves in the one-way process of Powell.

Claim 12:

The solvent (from a reservoir) is fed into the extractor and the recovery solvent from the second vessel is recharged to the extraction vessel via the inlet by a means. (See page 7)

Claim 13:

The oil (extractant) is separated from the solvent from the second vessel by a means. (See pages 7 and 8)

Claim 14:

Powell does not disclose that the apparatus includes means for determining the temperature of the first and second vessels. However, Powell discloses that it is important to operate the second vessel at room temperature or lower (see page 7, lines 2-11) and the first vessel of the modified process of Powell comprises a heating means. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the apparatus of Powell/Wilde by employing a means for determining the temperature of the first and second vessels because it is critical to regulate the temperatures of the first and second vessels at predetermined temperatures.

Claim 15:

The first and second vessels of Powell are transparent pressure vessels because Powell discloses that the solvent liquid containing the extract is transferred from the extraction apparatus to the evaporation chamber by depressing the valve which forces the solvent liquid to transfer into the evaporation chamber (see the last paragraph on page 8). Powell does not disclose that

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the vessels are capable of withstanding pressures of not more than 25 bar. However, both of the vessels of Powell would operate under a certain pressure (it appears that the pressure would be around 1 bar). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Powell by employ vessels capable of withstanding pressure of not more than 25 bar (e.g., 5 or 10 bar) because such vessels would effectively to hold their contents during the process.

Claim 16:

HFC-134a solvent and a co-solvent are fed together into the apparatus (see abstract)

Response to Arguments

The argument that the second vessel of Wilde is actually heated to prevent the temperature from falling below the solvent's boiling point whereas in the present invention, the oil that has been formerly extracted into a solvent is recovered by actively cooling the oil-solvent mixture to allow for the **precipitation** of the oil is not persuasive. Wilde discloses that the evaporator is cooled to room temperature (this meets the claimed limitation). Wilde further discloses that the evaporator is maintained at a temperature between 10-12° C. Since the claimed process does not exclude additional steps of maintaining the temperature of the evaporator, the process of Wilde meets all the limitation of the claimed process.

The argument that neither Powell nor Wilde discloses or suggests a means by which one of an ordinary skill in the art would be motivated to utilize a cooling step in the process simply because cooling would have been counter-productive to the process of evaporation is not persuasive because Wilde succeeds in teaching a process for extracting oil from a substance

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comprising steps of heating and cooling as claimed. Given the teaching of Wilde, one of skill in the art would modify the process of Powell by employing a heating means and a cooling means in the process of Powell because such means are effective to separate oil from a substance.

The argument that the process of Powell requires heating in the sense that if the oil-solvent system is not maintained at such a temperature range, evaporation of the solvent will significantly lower the temperature and reduce the speed of any further evaporation is not persuasive because as discussed above the evaporator of Wilde is cooled and maintained at certain temperatures. Therefore, the process of Powell/Wilde includes the cooling step as claimed.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tam M. Nguyen whose telephone number is (571) 272-1452.

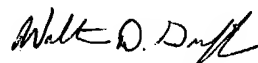
The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tam M. Nguyen
Examiner
Art Unit 1764

TN



Walter D. Griffin
Primary Examiner